AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An ~~liquid crystal~~ optical attenuator, comprising:

~~at least one polarizing element having an optical polarization axis, wherein the polarizing element transmits a portion of a light signal proportional to the angular difference between the optical polarization axis of the light signal and that of the polarizing element; and~~

a variable liquid crystal rotator comprising:

an at least semi-transparent liquid crystal device; and

a plurality of electrodes configured to conduct electricity to the at least semi-transparent liquid crystal device such that the polarization axis of ~~the~~ a light signal transmitted through the liquid crystal device will be ~~rotated~~ varied by an amount proportional to the magnitude of the electricity applied to the plurality of electrodes[[.]];

a first polarizing element having an optical polarization axis, wherein the first polarizing element receives the light signal from the variable liquid crystal rotator and transmits a portion of the light signal proportional to the angular difference between the optical polarization axis of the light signal and that of the first polarizing element;

a faraday rotator configured to receive the portion of the light signal from the first polarizing element and rotate the optical polarization axis of the portion of the light signal;

a second polarizing element having an optical polarization axis, wherein the second polarizing element receives the portion of the light signal and transmits a second portion of the light signal proportional to the angular difference between the optical

polarization axis of the portion of the light signal and that of the second polarizing element;

2. (Original) The optical attenuator of claim 1, wherein the polarizing element comprises a polarizer having a linear optical polarity.

3. (Withdrawn) The optical attenuator of claim 1, wherein the semi-transparent liquid crystal device comprises a twisted nematic liquid crystal cell.

4. (Currently Amended) A laser package comprising:

a laser configured to generate a light signal having an optical polarization axis;

~~at least one polarizing element having an optical polarization axis, wherein the polarizing element transmits a portion of the light signal proportional to the angular difference between the optical polarization axis of the light signal and that of the polarizing element; and~~

a variable liquid crystal rotator comprising:

an at least semi-transparent liquid crystal device; and

a plurality of electrodes configured to conduct electricity to the at least semi-transparent liquid crystal device such that the polarization axis of a light signal transmitted through the liquid crystal device will be ~~rotated~~ varied by an amount proportional to the magnitude of the electricity applied to the plurality of electrodes[[.]];

a first polarizing element having an optical polarization axis, wherein the first polarizing element receives the light signal from the variable liquid crystal rotator and transmits a portion of the light signal that is proportional to the angular difference between the optical polarization axis of the light signal and that of the first polarizing element;

a faraday rotator configured to receive the portion of the light signal from the first polarizing element and rotate the optical polarization axis of the portion of the light signal;

a second polarizing element having an optical polarization axis, wherein the second polarizing element receives the portion of the light signal and transmits a second portion of the light signal proportional to the angular difference between the optical polarization axis of the portion of the light signal and that of the second polarizing element.

5. (Withdrawn) The laser package of claim 4, wherein the laser comprises a semiconductor laser or a gas laser.

6. (Original) The laser package of claim 4, wherein the laser comprises a distributed feedback laser.

7. (Original) The laser package of claim 4, wherein the polarizing element comprises a polarizer having a linear optical polarity.

8. (Withdrawn) The laser package of claim 4, wherein the semi-transparent liquid crystal device comprises a twisted nematic liquid crystal cell.

9. (Withdrawn) The laser package of claim 4, further comprising a window or lens interposed between the laser and the variable liquid crystal rotator.

10. (Original) An optical transceiver package comprising the laser package of claim 4.

11. (Currently Amended) A laser package for optical attenuation and isolation, comprising:

a laser configured to generate a light signal having an optical polarization axis;

a variable liquid crystal rotator in optical communication with the laser and comprising:

an at least semi-transparent liquid crystal device; and

a plurality of electrodes configured to conduct electricity to the at least semi-transparent liquid crystal device such that the polarization axis of the light signal transmitted through the liquid crystal device will be ~~rotated~~ varied by an amount proportional to the magnitude of the electricity applied to the plurality of electrodes;

a first polarizing element in optical communication with the liquid crystal rotator and having an optical polarization axis, wherein the first polarizing element transmits a portion of the light signal proportional to the angular difference between the optical polarization axis of the light signal and that of the first polarizing element;

a faraday rotator in optical communication with the first polarizing element and comprising:

an at least semi-transparent material; and

a magnetic material at least partially surrounding the at least semi-transparent material and configured to apply a magnetic force to a light signal that is passed through the at least semi-transparent material; and

a second polarizing element in optical communication with the faraday rotator and having an optical polarization axis, wherein the second polarizing element transmits a portion of an incident light signal proportional to the angular difference between an optical polarization axis of the incident light signal and that of the second polarizing element.

12. (Withdrawn) The laser package of claim 11, wherein the laser comprises a semiconductor laser or a gas laser.

13. (Original) The laser package of claim 11, wherein the laser comprises a distributed feedback laser.

14. (Withdrawn) The laser package of claim 11, wherein the semi-transparent liquid crystal device comprises a twisted nematic liquid crystal cell.

15. (Original) The laser package of claim 11, wherein the polarizing elements each comprise a polarizer having a linear optical polarity.

16. (Withdrawn) The laser package of claim 11, wherein the semi-transparent material comprises garnet.

17. (Withdrawn) The laser package of claim 11, wherein the magnetic material of the faraday rotator comprises a permanent magnet or a premagnetized hard ferromagnetic material.

18. (Withdrawn) The laser package of claim 11, further comprising a window or lens interposed between the laser and the variable liquid crystal rotator.

19. (Original) An optical transceiver package comprising the laser package of claim 11.

20. (Currently Amended) A method of attenuating and isolating a light signal, comprising:

directing a light signal from a laser to a variable liquid crystal rotator, the variable liquid crystal rotator comprising:

an at least semi-transparent liquid crystal device; and

a plurality of electrodes configured to conduct electricity to the at least semi-transparent liquid crystal device;

transmitting at least a portion of the light signal through the liquid crystal device such that the polarization axis of the light signal is rotated by an amount proportional to the magnitude of the electricity applied to the electrodes;

directing the light signal from the variable liquid crystal rotator to a first polarizing element;

directing the light signal from the first polarizing element to a faraday rotator, the faraday rotator comprising:

an at least semi-transparent material; and

a magnetic material at least partially surrounding the at least semi-transparent material; and

directing the light signal from the faraday rotator to a second polarizing element.